
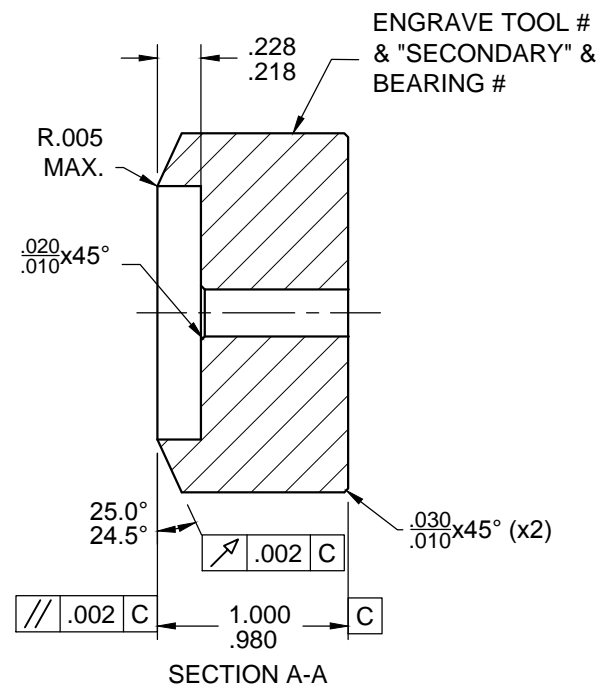
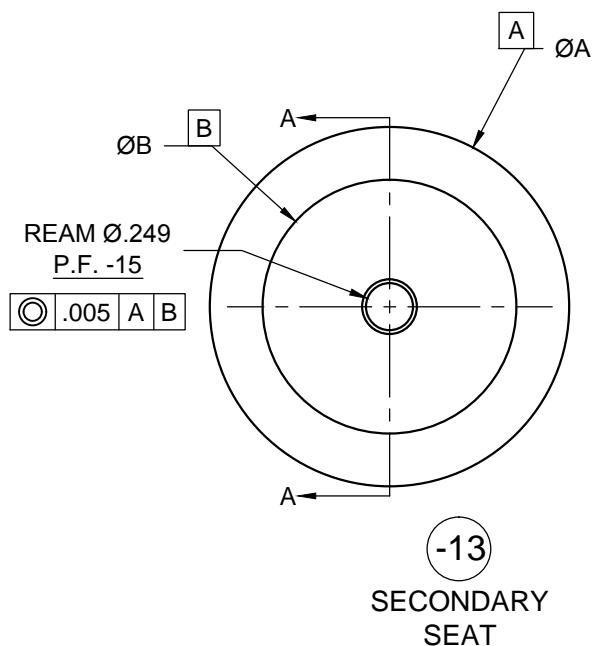
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1. BREAK ALL SHARP CORNERS (.015/.03).

 <b>RED BARN MACHINE</b>	
<b>TITLE</b> KSTFB SERIES DP TRI-ROLLER SWAGING TOOLS FOR BACB10FB BEARINGS	
<b>DWG NO.</b> (TOOL#) -15 LOCATING PIN	<b>REV</b> 5
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES  TOLERANCES ON: DECIMALS .XXX ± .005 .XX ± .01 .X ± .1  FRACTIONS ± 1/32 ANGLES ± 5°	<b>DRAWN BY:</b> PERRITT <b>APPROVED</b>  <b>HEAT TREAT</b> <b>FINISH SPEC</b> BLACK OXIDE  USED ON BEARING  <b>SEE Pg. 1</b>
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
<b>SCALE</b> NTS	<b>DATE</b> 1-31-09
<b>SHEET</b> 9 of 9	

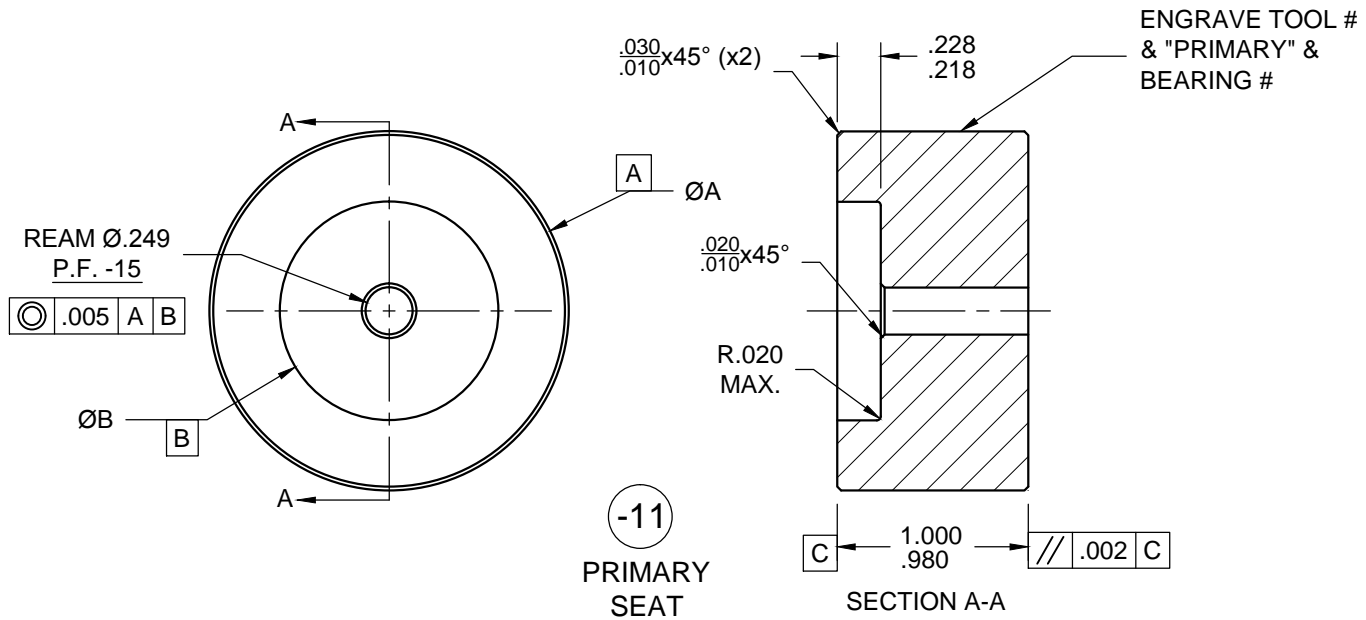


#### NOTES

- BREAK ALL SHARP CORNERS (.015/.03).

TOOL # KST-BACB10FB	ØA +.000 -.030	ØB +.000 -.005	MATERIAL
KSTFB04	1.062	.617	4140 Q&T RND. BAR Ø1-1/8x 1-1/8
KSTFB05	1.125	.681	4140 Q&T RND. BAR Ø1-1/4 x 1-1/8
KSTFB05-SP	.920	.681	4140 Q&T RND. BAR Ø1 x 1-1/8
KSTFB06	1.250	.775	4140 Q&T RND. BAR Ø1-1/4 x 1-1/8
KSTFB07	1.375	.900	4140 Q&T RND. BAR Ø1-3/8 x 1-1/8
KSTFB08	1.500	.968	4140 Q&T RND. BAR Ø1-1/2 x 1-1/8
KSTFB09	1.625	1.062	4140 Q&T RND. BAR Ø1-5/8 x 1-1/8
KSTFB10	1.750	1.187	4140 Q&T RND. BAR Ø1-3/4x 1-1/8

<b>TITLE</b> KSTFB SERIES DP TRI-ROLLER SWAGING TOOLS FOR BACB10FB BEARINGS			
<b>DWG NO.</b> (TOOL#) -13 SECONDARY SEAT			<b>REV</b> 5
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DECIMALS .XXX ± .005 .XX ± .01 X ± .1		FRACTIONS ± 1/32 ANGLES ± 5°	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		DRAWN BY: PERRITT APPROVED HEAT TREAT FINISH SPEC BLACK OXIDE USED ON BEARING SEE Pg. 1	
SCALE NTS	DATE 1-31-08	SHEET 8 of 9	



TOOL #	ØA	ØB	MATERIAL
KST-BACB10FB	+0.000 -.030	+0.000 -.005	
KSTFB04	1.125	.572	4140 Q&T RND. BAR Ø1-1/8 x 1-1/8
KSTFB05	1.125	.600	4140 Q&T RND. BAR Ø1-1/4 x 1-1/8
KSTFB05-SP	.920	.600	4140 Q&T RND. BAR Ø1x 1-1/8
KSTFB06	1.250	.720	4140 Q&T RND. BAR Ø1-1/4 x 1-1/8
KSTFB07	1.375	.845	4140 Q&T RND. BAR Ø1-3/8 x 1-1/8
KSTFB08	1.500	.886	4140 Q&T RND. BAR Ø1-1/2 x 1-1/8
KSTFB09	1.625	.982	4140 Q&T RND. BAR Ø1-5/8 x 1-1/8
KSTFB10	1.750	1.106	4140 Q&T RND. BAR Ø1-3/4x 1-1/8


- NOTES**
- BREAK ALL SHARP CORNERS (.015/.03).

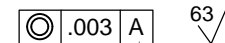
<b>RED BARN MACHINE</b>			
TITLE KSTFB SERIES DP TRI-ROLLER SWAGING TOOLS FOR BACB10FB BEARINGS			
DWG NO. (TOOL#) -11 PRIMARY SEAT			REV 5
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		DRAWN BY: PERRITT	
TOLERANCES ON:		APPROVED	
DECIMALS		HEAT TREAT	
XXX ± .005		FINISH	
XX ± .01		SPEC BLACK OXIDE	
X ± .1		USED ON BEARING	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		SEE Pg. 1	
SCALE NTS	DATE 1-31-08	SHEET 7 of 9	

Technical drawing of a shaft with the following dimensions and features:

- Overall length:  $D$
- Left end chamfer:  $.020 \times 45^\circ$  (top) and  $.010 \times 45^\circ$  (bottom)
- Left end fillet:  $R.015 \text{ MIN.}$
- Top fillet:  $.322$  (total width) and  $.302$  (fillet width)
- Right end hole:  $\varnothing B$  (diameter),  $.003$  (tolerance), and  $A$  (feature control symbol)
- Right end step:  $.072$  (total width) and  $.052$  (step width)
- Feature  $C$  is indicated at the left end of the shaft.


1. BREAK ALL SHARP CORNERS (.015/.03).

 <b>RED BARN MACHINE</b>			
<b>TITLE</b> KSTFB SERIES DP TRI-ROLLER SWAGING TOOLS FOR BACB10FB BEARINGS			
<b>DWG NO.</b> (TOOL#) -9 PIN			<b>REV</b> 5
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: .XXX ± .005 .XX ± .01 .X ± .1 FRACTIONS ± 1/32 ANGLES ± 5°		<b>DRAWN BY:</b> PERRITT <b>APPROVED</b> HEAT TREAT FINISH SPEC <b>BLACK OXIDE</b> USED ON BEARING <b>SEE Pg. 1</b>	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING			
<b>SCALE</b> NTS	<b>DATE</b> 1-31-08	<b>SHEET</b> 6	of 9




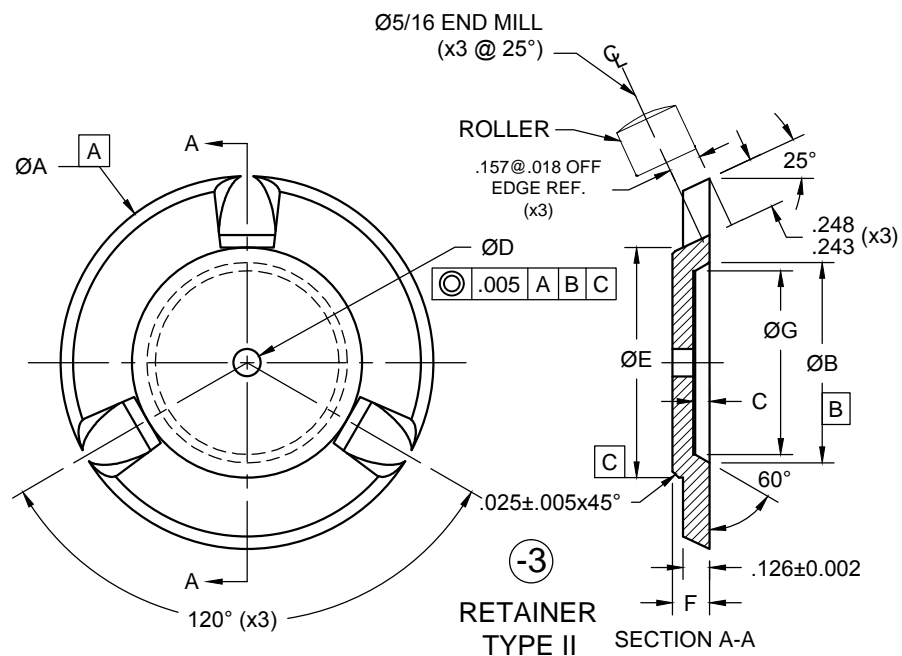
## GUIDE

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- |  |                     |  |                 |
|--|---------------------|--|-----------------|
|  <b>RED BARN MACHINE</b>  |                     |  |                 |
| <b>TITLE</b> KSTFB SERIES DP TRI-ROLLER SWAGING TOOLS<br>FOR BACB10FB BEARINGS   |                     |  |                 |
| <b>DWG NO.</b> (TOOL#) -7 GUIDE  |                     |  | <b>REV</b><br>5 |
| <b>UNLESS OTHERWISE SPECIFIED</b><br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ON:<br>.XXX ± .005<br>.XX ± .01<br>X ± .1<br>FRACTIONS ± 1/32<br>ANGLES ± 5° |                     | <b>DRAWN BY:</b> PERRITT<br><b>APPROVED</b><br>HEAT<br>TREAT<br>FINISH<br>SPEC |                 |
| <b>UNLESS OTHERWISE SPECIFIED</b><br>1. BREAK ALL SHARP EDGES<br>.015 x 45° PR .015 R<br>2. DIMENSIONAL LIMITS APPLY AFTER PLATING                       |                     | <b>USED ON BEARING</b><br><b>SEE Pg. 1</b>                                     |                 |
| <b>SCALE</b> NTS   | <b>DATE</b> 1-31-08 | <b>SHEET</b> 5   | of 9            |




 <b>RED BARN MACHINE</b>			
<b>TITLE</b> KSTFB SERIES DP TRI-ROLLER SWAGING TOOLS FOR BACB10FB BEARINGS			
<b>DWG NO.</b> (TOOL#) -5 ROLLER (QTY. 3)			<b>REV</b> 5
<b>UNLESS OTHERWISE SPECIFIED</b> TOLERANCES ARE IN INCHES DECIMALS .XXX ± .005 .XX ± .01 .X ± .1 FRACTIONS ± 1/32 ANGLES ± 5°		<b>DRAWN BY:</b> PERRITT <b>APPROVED</b> HEAT TREAT FINISH SPEC	
<b>UNLESS OTHERWISE SPECIFIED</b> 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		<b>USED ON BEARING</b> <b>SEE Pg. 1</b>	
<b>SCALE</b> NTS	<b>DATE</b> 1-31-08	<b>SHEET</b> 4 of 9	



NOTES

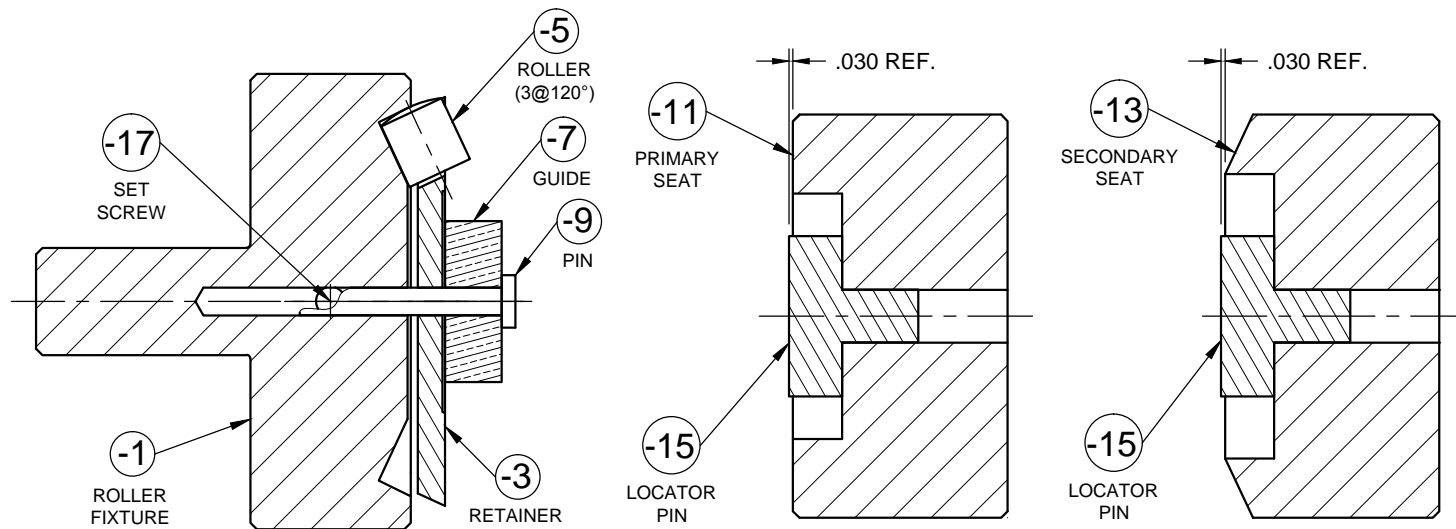
1. BREAK ALL SHARP CORNERS (.015/.03).

 <b>RED BARN MACHINE</b>			
<b>TITLE</b> KSTFB SERIES DP TRI-ROLLER SWAGING TOOLS FOR BACB10FB BEARINGS			
<b>DWG NO.</b> (TOOL #) -3 RETAINER		<b>REV</b> 5	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DECIMALS .XXX ± .005 .XX ± .01 .X ± .1 FRACTIONS ± 1/32 ANGLES ± 5°		<b>DRAWN BY:</b> PERRITT <b>APPROVED</b> HEAT TREAT FINISH SPEC	
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		USED ON BEARING <b>SEE Pg. 1</b>	
<b>SCALE</b> NTS	<b>DATE</b> 1-31-08	<b>SHEET</b> 3	<b>of</b> 9





REVISIONS				
REV	DESCRIPTION	DATE	INITIAL	APPROVED
1	ADDED NOTE TO -1 BODY TO INSPECT BEFORE HEAT TREATING, ALSO CHANGED TOL., OF -1 ROLLER FIXTURE'S ØB, ØC, & ØE FROM +.002 - .000.	2/11/08	WP	DW
2	ADDED TOOLS FB06 & FB07. DELETED -13 "ØB" DIMENSION AND ASSOCIATED 25° ANGLE, ALSO DELETED -15 TYPE II PIN.	4/18/08	WP	DW
3	CHANGED -15 LOCATING PIN TOLERANCE FROM Ø.2480-Ø.2475 TO Ø.250 P.F.; CHANGED -11 & -13 FROM Ø.247-Ø.246 TO REAM Ø.249.	4/25/08	WP	G.E.
4	ADDED TOOLS #'S KSTFB05, KSTFB08, KSTFB09, KSTFB10. CHANGED -13C DIMENSION TO -13B. REWORKED ALL OF -1 DIMENSIONS TO ALLOW FOR PROPER DEPTH. ALSO CHANGED -5 RADII FROM .005-.010 TO .015-.020; -9 PIN RADII FROM .015 MAX. TO .015 MIN.; & -7 SLEEVE TO -7 GUIDE.	6-26-08	WP	DW
5	ADDED NEW TOOL KSTFB05-SP, AND CREATED A RETAINER -3 TYPE II TO ACCOMMODATE THE SP (SPECIAL, SMALL SIZE FOR CLEARANCE).	8/22/08	WP	RW



#### NOTES

- 5 ROLLERS MUST TURN FREELY IN -3 RETAINER POCKETS.
- 5 ROLLERS & -3 RETAINER MUST TURN FREELY WHEN TOOL IS COMPLETELY ASSEMBLED.
- FLAT END OF ROLLERS MUST FACE TOWARDS THE CENTER OF THE TOOL WHEN ASSEMBLED.

BEARINGS & TOOLS COVERED	
BEARING #	TOOL #
BACB10FB04	KSTFB04
BACB10FB05	KSTFB05
BACB10FB05	KSTFB05-SP
BACB10FB06	KSTFB06
BACB10FB07	KSTFB07
BACB10FB08	KSTFB08
BACB10FB09	KSTFB09
BACB10FB10	KSTFB10

ASSY QTY	B/O	PART #	UNIT QTY	DESCRIPTION	B/O INFORMATION OR SPECIFICATIONS	Pg.
		-1	1	ROLLER FIXTURE	SEE CHART	2
		-3	1	RETAINER	SEE CHART	3
		-5	3	ROLLER	SEE CHART	4
		-7	1	GUIDE	SEE CHART	5
		-9	1	PIN	SEE CHART	6
		-11	1	PRIMARY SEAT	SEE CHART	7
		-13	1	SECONDARY SEAT	SEE CHART	8
		-15	2	LOCATING PIN	SEE CHART	9
	B/O	-17	1	SOCKET HEAD SET SCREW	#8-32 x 1/4	N/S

**RED BARN MACHINE**

TITLE KSTFB SERIES DP TRI-ROLLER SWAGING TOOLS FOR BACB10FB BEARINGS

DWG NO. (SEE TOOL# ABOVE); ASSEMBLY REV 5

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES ON:

DECIMALS .XXX ± .005 FRACTIONS ± 1/32 ANGLES ± 5°

XX ± .01 X ± .1


UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING

SCALE NTS DATE 1-31-08 SHEET 1 of 9

DRAWN BY: PERRITT APPROVED

HEAT TREAT LISTED PER ITEM FINISH LISTED PER ITEM USED ON BEARING SEE ABOVE

[illegible]

 <span>RED BARN MACHINE</span>	
TITLE <span style="float: right;">--</span>	
DWG NO. <span style="float: right;">--</span>	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DECIMALS .XXX ± .005 .XX ± .01 .X ± .1 FRACTIONS ± 1/32 ANGLES ± 5°	DRAWN BY: <b>PERRITT</b> APPROVED HEAT TREAT FINISH SPEC
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	USED ON MODEL   
SCALE <b>NTS</b>	DATE <b>8-15-07</b>
SHEET <b>1 of 1</b>	

NOT APPROVED FOR PRODUCTION

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

PART #	QTY	DESCRIPTION
-1	1	--

DRAWN BY: PERRITT	<div><div>RB</div>RED BARN MACHINE</div>		
CHECKED	TITLE		
HEAT TREAT FINISH SPEC	TITLE		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: DECIMALS .XXX ± .005 .XX ± .01 .X ± .1	FRACTIONS ± 1/32 ANGLES ± .5°		REV.
USED ON MODEL ?	DWG NO. PART #		
	SCALE NTS	DATE 1-28-06	SHEET 1 of 1
	UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES .015 x 45° PR .015 R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING		

ITEM #	QTY	DESCRIPTION
1	1	0-1 DRILL ROD Ø2-1/8 x 1-7/8
3	1	BRASS RND Ø2 x 5/16
5	3	0-1 DRILL ROD Ø3/8 x 1/2
7	1	BRASS RND Ø3/4 x 3/8
9	1	1018 RND Ø1/4 x 1-1/8
11	1	1018 RND Ø1-7/8 x 1-1/8
13	1	1018 RND Ø1-7/8 x 1-1/8
15	1	1018 RND Ø3/4 x 3/4

DRAWN BY:		PERRITT	
APPROVED			
HEAT TREAT			
FINISH SPEC		BLACK OXIDE	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			
TOLERANCES ON:			
DECIMALS			
.XX	± .005	FRACTIONS ± 1/32	
.X	± .01	ANGLES ± 5°	
.X	± .1		
UNLESS OTHERWISE SPECIFIED 1. BREAK ALL SHARP EDGES			

 <b>RED BARN MACHINE</b>	
<b>TEST SUIT</b> <b>TEST APPROVED</b>	
<b>SPARKING TOOLS</b>	
DWG NO.	RB ST1016
SCALE	DATE 1-24-23 SHEET 1-2-1